STI

CERTIFICATION

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This is to certify that the attached English language document, identified as Patent entitled Stator iron core, is a true and accurate translation of the original Japanese language document to the best of our knowledge and belief.

Executed this 5th day of March, 2002

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(19) Japanese Patent Office (JP)

(12) Japanese Kokai Patent Journal (A)

(11) Japanese Patent Application No.: Hei 1[1989]-126141

Identification Symbol

Sequence Nos. for Office Use: Z-6340-5H
6340-5H

Examination Request: Not requested

No. of Inventions: 1 (Total of 3 pages)

(43) Publication Date: May 18, 1989

(51) Int. Cl^4: H 02 K 1/16

1/34

(54) Title of the invention: STATOR IRON CORE

(21) Filing No.: Sho 62[1987]-282802

(22) Filing Date: November 9, 1987

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Specification

1. Title of the invention STATOR IRON CORE

2. Claim

1. A stator iron core characterized by the facts that multiple equally portioned axial slits are installed at appropriate widths and depths on the outer circumference of a cylindrical iron core and that a mixed material of a magnetic iron powder and a thermosetting resin with an insulation capacity is filled into the slits.

3. Detailed explanation of the invention

(Industrial application field)

The present invention pertains to a stator iron core for an alternating-current rotary electric device in which the generation of noises due to magnetic vibrations can be reduced.

(Prior art)

A conventional example of the stator iron core of an alternating-current rotary electric device will be explained with reference to Figure 3. In the figure, a large number of equally proportioned axial coil insertion grooves 2 are installed on the inner circumferential portion of an iron core 1.

(Problems to be solved by the invention)

In the above-mentioned structure, the size of a gap vis-à-vis the outer circumference of the stator iron core is not uniform along the circumference, due to which a [illegible] high-frequency magnetic flux becomes generated, and an electromagnetic force wave that deforms the stator iron core 1 along the diametrical direction becomes generated. The frequency of the

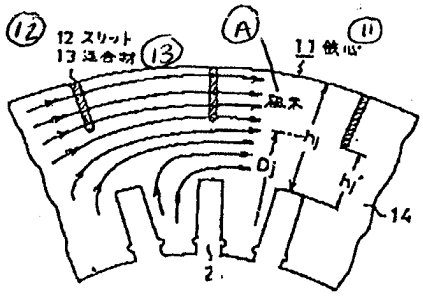
electromagnetic force wave is determined by the number of grooves and the power supply frequency, and if the frequency and the vibration frequency specific to the deformation mode of the iron core 1 (also including frames, which are not shown in the figure, for supporting it) mutually coincide or approach, magnetic vibrations rapidly increase, as a result of which noises become generated. In accordance with recent improvements of the heat resistances of electrically insulated products, in particular, the magnetic load of the iron core 1 has been increasing, and therefore, the electromagnetic force wave per unit volume of the iron core 1 also increases, as a result of which loud noises become generated.

In order to eradicate the above-mentioned disadvantages, the purpose of the present invention is to provide a stator iron core for an alternating-current rotary electric device in which the generation of noises due to magnetic vibrations can be reduced.

(Means to solve the problems)

In order to achieve the above-mentioned purpose, the present invention provides a stator iron core characterized by the facts that multiple equally proportioned axial slits 12 are installed at appropriate widths and depths on the outer circumference of a cylindrical iron core 11 and that a mixed material 13 of a magnetic iron powder and a thermosetting resin with an insulation capacity is filled into the slits 12.

Figure 1:



11 Iron core

12 Slit

13 Mixed material

A. Magnetization

Figure 2:

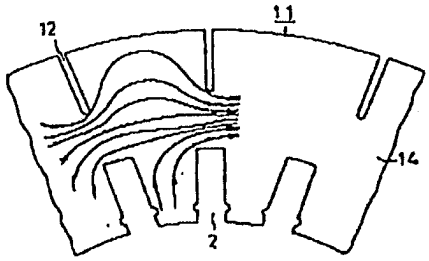


Figure 3: